

Prior Art Rejections

Matsukawa

Claims 1 and 2 stand rejected under 35 U.S.C. §102(b) as being anticipated by or, in the alternative, under 35 U.S.C. §103(a) as being obvious over U.S. Patent No. 5,554,831 ("Matsukawa" hereafter). The Office Action acknowledges that Matsukawa fails to provide "a direct citation of fiber sizes of less than 1 denier." However, the Office Action asserts that Matsukawa "suggest[s] to one skilled in the art to employ as fine a fiber that is possible, making it obvious to a person skilled in the art to use polyester fibers with a fineness less than 1 denier." Applicants respectfully traverse this assertion for at least the following reasons.

Matsukawa teaches a sound absorbing member used as a dash insulator for an automobile located on a surface of a dash panel dividing an engine room and a compartment, the fiber assembly comprised of recycled polyester fibers (col. 3, lines 11-15). According to Matsukawa, the sound insulating performance can be improved by controlling vibration transmission from the engine to the compartment, which is largely affected by the formulation of the fibers (col. 3, lines 18-27). Specifically, Matsukawa teaches that the spring constant of the fiber assembly itself largely takes part in the vibration transmission (col. 3, lines 27-29). Thus, Matsukawa teaches that the vibration transmissibility can be decreased by reducing the spring constant of the fiber assembly, whereby the sound insulating performance can be improved (col. 3, lines 29-31). As noted by the Examiner, Matsukawa specifically teaches the use of fine fibers having a size of not more than 4 denier, preferably not more than 2 denier for satisfying the sound absorbing performances (col. 1, line 63-col. 2, line 5).

It would not be obvious to one of ordinary skill in the art to modify the teachings of Matsukawa to achieve the claimed ranges, however, due to an expectancy of increasing the spring constant of the fiber assembly at high weight concentrations of finer fibers (e.g., fibers having a size less than 1 denier). Specifically, as described, for example, on page 7, line 29-page 8, line 4 of the pending application, if the blended amount of the polyester fiber having a size smaller than 1 denier exceeds 95 parts by weight, air flow resistance of the sound absorbing material increases to an impermissible level so as to degrade (i.e., *increase*) the spring constant. If the blended amount is less than 20 parts by weight, however, no effect of blending the polyester fiber can be obtained. Thus, the present invention provides for improved sound

insulating performance and good moldability by selecting a specific blending ratio between the finer fibers and thicker fibers, which is not disclosed or suggested by Matsukawa as one of ordinary skill in the art would presume degraded sound absorption performance would occur at high concentrations of finer fibers. Applicants direct the Examiner's attention to Table 1 of the pending application, which depicts the improved performance over earlier techniques 1 & 2, which correspond to the technique described in Matsukawa.

As Matsukawa fails to disclose or suggest the claimed invention, Applicants submit that claims 1 and 2 are allowable over Matsukawa. Withdrawal of the rejections under 35 U.S.C. §102(b) and 35 U.S.C. §103(a) over Matsukawa is respectfully solicited.

Holtrop in view of Yoshida

Claims 1 and 2 also stand rejected under 35 U.S.C. §103(a) as being obvious over U.S. Patent No. 4,851,283 ("Holtrop" hereafter) in view of U.S. Patent No. 4,529,481 ("Yoshida" hereafter). Applicants respectfully traverse this rejection for at least the following reasons.

Holtrop teaches laminates used in making headliners for compact and subcompact automobiles where the headliners are of a minimum gauge so as to be as light as possible and where sound-absorbing characteristics are difficult to achieve (col. 2, lines 30-35). The Holtrop fabric comprises a blend of low melting staple binder fibers and high melting staple fibers (col. 2, lines 43-44). Holtrop teaches that increasing the denier of the fibers of the fabric improves the stiffness of the headliner and reduces its sound-absorbing characteristics (col. 2, lines 64-67). As noted by the Examiner, the average denier of the high melting staple fibers in Holtrop is in the range of 1 to 15 and, preferably, in the range of 3 to 8 (col. 2, lines 56-58), the denier and length of the high melting staple fibers being selected to impart an optimum balance of characteristics to the laminate and, in particular, sound-absorbing and stiffness characteristics (col. 2, lines 60-64).

The Office Action asserts that Holtrop teaches the "low melting binder fibers and the high melting staple fibers can both be polyester. By definition, the low melting binder fibers would have a softening point less than 20 °C than the high melting staple fibers." Holtrop teaches that high melting staple fibers are fibers that do not melt at temperatures below about 204 °C, and that low melting binder fibers are fibers that

have melting points in the range of 90 °C to 200 °C, preferably between 107 °C and 177 °C (col. 2, lines 20-26). Thus, at largest, Holtrop teaches a difference of 204 °C minus 90 °C, which is 114 °C.

Applicants submit, however, that there is no motivation to combine Holtrop with Yoshida as proposed by the Office Action. The Office Action acknowledges that Holtrop fails to disclose a fiber having a size less than 1 denier, but asserts that Yoshida teaches a fiber less than 1 denier, and that it would have been obvious to one skilled in the art to use the fiber of Yoshida in the sound absorbing laminate provided by Holtrop in order to increase the sound absorbing properties of the laminate. However, Holtrop itself emphasizes the importance of having a fiber size in the range of 1 to 15 denier (i.e., *not* less than 1 denier) as imparting the optimum balance of characteristics to the laminate, and thus explicitly teaches away from such a combination. See MPEP §2142.02 (prior art must be considered in its entirety, including disclosures that teach away from the claims). Furthermore, as a fiber having a size less than 1 denier is not only outside the preferred range in Holtrop, but is also outside the largest suitable range, the proposed modification of Holtrop to sizes less than 1 denier would render Holtrop unsatisfactory for its intended purpose as set forth in Holtrop (i.e., it would not be sufficiently strong). See MPEP §2143.01 (proposed modification cannot render the prior art unsatisfactory for its intended purpose or change the principle of operation of a reference). Thus, there is no motivation within either reference to combine the references in such a way as to achieve the structure and benefits of the claimed invention.

In view of the aforementioned arguments, Applicants submit that claims 1 and 2 are allowable over Holtrop in view of Yoshida. Withdrawal of the rejection under 35 U.S.C. §103(a) over Holtrop in view of Yoshida is respectfully solicited.

Rejoinder of Claims 3-14

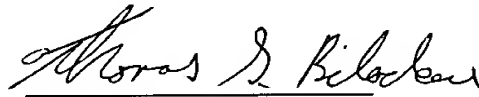
In view of the aforementioned arguments with respect to claims 1 and 2, Applicants respectfully request rejoinder of claims 3-14 in accordance with MPEP §821.04 and *In re Ochiai*, 71 F.3d 1565 USPQ2d 1127 (Fed. Cir. 1995). Allowance of claims 3-14 is respectfully solicited.

Conclusion

Applicants believe that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

Respectfully submitted,



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June 17, 2002

Date

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Should additional fees be necessary in connection with the filing of this paper, or if a petition for extension of time is required for timely acceptance of same, the Commissioner is hereby authorized to charge deposit account No. 19-0741 for any such fees; and applicant hereby petitions for any needed extension of time.

APPENDIX A

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Title: SOUND ABSORBING MATERIAL AND INTERIOR MATERIAL USING THE SAME

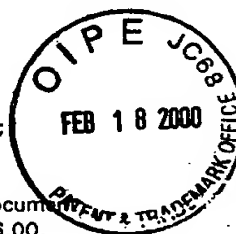
Inventor(s): Hiroaki MIURA et al.

Dkt. No. 040679/1012

Appl. No.: Unassigned

February 18, 2000

- Transmittal of Patent Application (2 pgs.);
- Patent Application Specification (31 pgs.);
- Declaration and Power of Attorney (2 pgs.);
- Assignment (2 pgs.);
- Assignment Recordation Cover Sheet (1 pg.);
- Preliminary Amendment (2 pgs.);
- Formal Drawings (3 sheets);
- Claim for Convention Priority with Priority Document
- Check Number 75883 for \$886.00.



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This is to certify that the annexed is a true copy of the following application as filed
in this Office.

出願年月日
Date of Application:

1999年 2月18日

出願番号
Application Number:

平成11年特許願第039553号

出願人
Applicant(s):

日産自動車株式会社

1999年11月 5日

特許庁長官
Commissioner,
Patent Office

近藤隆彦

